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ENVIRONMENTAL PROTECTION
AGENCY-REGION VII
REGIONAL HEARING CLERK

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VII
901 NORTH 5th STREET
KANSAS CITY, KANSAS 66101

IN THE MATTER OF:

UNIVAR USA INC.
4120 BUCKINGHAM PLACE
OMAHA, NEBRASKA

RESPONDENT.

Proceeding under Section 3008(h) of the
Resource Conservation and Recovery Act,
as amended, 42 U.S.C. § 6908(h).

Docket No.
RCRA-07-2005-0105

**ADMINISTRATIVE ORDER ON CONSENT
FOR CORRECTIVE MEASURES IMPLEMENTATION**

DAH050605

6-16-05 456452



RCRA RECORDS

4011

TABLE OF CONTENTS

I.	JURISDICTION	1
II.	STATEMENT OF PURPOSE	1
III.	PARTIES BOUND	1
IV.	FINDINGS OF FACT	2
V.	CONCLUSIONS OF LAW AND DETERMINATIONS	9
VI.	PROJECT COORDINATORS	10
VII.	WORK TO BE PERFORMED	11
VIII.	SUBMISSIONS/AGENCY APPROVALS/ADDITIONAL WORK	12
IX.	ACCESS/INSTITUTIONAL CONTROLS	13
X.	SAMPLING AND DATA/DOCUMENT AVAILABILITY	16
XI.	DISPUTE RESOLUTION	17
XII.	FORCE MAJEURE	17
XIII.	STIPULATED PENALTIES	18
XIV.	FINANCIAL ASSURANCE	19
XV.	RECORD PRESERVATION	24
XVI.	RESERVATION OF RIGHTS	25
XVII.	OTHER CLAIMS	26
XVIII.	OTHER APPLICABLE LAWS	26
XIX.	MODIFICATION	26
XX.	SEVERABILITY	26
XXI.	INDEMNIFICATION OF THE UNITED STATES	27
XXII.	TERMINATION AND SATISFACTION	27
XXIII.	NON-SIGNATORIES TO ORDER	27
XXIV.	EFFECTIVE DATE	27
XXV.	WAIVER OF HEARING	28

ATTACHMENT 1 - FINAL DECISION AND RESPONSE TO COMMENTS

ATTACHMENT 2 - CORRECTIVE MEASURES IMPLEMENTATION SCOPE OF WORK

I. JURISDICTION

1. This Administrative Order on Consent ("Order") is issued pursuant to the authority vested in the Administrator of the United States Environmental Protection Agency ("EPA") by Section 3008(h) of the Solid Waste Disposal Act, 42 U.S.C. § 6928(h), as amended by the Resource Conservation and Recovery Act of 1976 and the Hazardous and Solid Waste Amendments of 1984. (The Solid Waste Disposal Act, as amended, is referred to herein as "RCRA.") The authority vested in the Administrator has been delegated to the Regional Administrator of EPA, Region VII by Delegation Nos. 8-31 and 8-32, dated May 11, 1994. On January 1, 1995, this authority was redelegated to the Director of EPA Region VII's Air, RCRA, and Toxics Division by Delegation Nos. R7-8-031 and R7-8-032.

2. This Administrative Order is issued to Univar USA Inc. ("Respondent"), the owner and operator of a facility located at 4120 Buckingham Place, Omaha, Nebraska ("Facility"). The location of the Facility is depicted on the figures included in the Final Decision and Response to Comments ("FD-RTC") which is Attachment 1 to this Order. In voluntarily entering into this Order, Respondent agrees not to contest EPA's jurisdiction, or the factual bases therefor, to issue or enforce this Order. For the purposes of this Order, Respondent agrees not to contest the Conclusions of Law and Determinations set forth herein.

II. STATEMENT OF PURPOSE

3. In entering into this Order the mutual objective of EPA and Respondent is to prevent any release or mitigate any migration of hazardous wastes and/or hazardous waste constituents at or from the Facility in an expeditious manner to protect human health and the environment. It is understood by EPA and Respondent that Respondent will attempt to satisfy that objective through the implementation of the corrective measures selected by EPA as set forth in the FD-RTC. EPA and Respondent agree that the Corrective Measure Implementation ("CMI") Workplan required by this Order will incorporate and utilize that work already completed by Respondent that is consistent with the FD-RTC and the CMI Scope of Work ("SOW") which is Attachment 2 to this Order.

III. PARTIES BOUND

4. This Order shall apply to and be binding upon Respondent and its agents, successors and assigns, and upon all persons, contractors, and consultants acting under or on behalf of Respondent.

5. No change in Respondent's corporate status or in the ownership of the Facility will in any way alter Respondent's responsibility under this Order.

6. Respondent shall provide a copy of this Order to all contractors, subcontractors, laboratories, and consultants retained by Respondent to conduct or monitor any portion of the

work performed pursuant to this Order within 1 week of the effective date of this Order or date of retention, and shall condition all such contracts on compliance with the terms of this Order.

7. Respondent shall give notice of this Order to any successor in interest prior to transfer of ownership or operation of the Facility and shall notify EPA within 30 days prior to such transfer.

IV. FINDINGS OF FACT

8. Respondent is a corporation organized and existing pursuant to the laws of the state of Washington.

9. Respondent is the current owner of the Facility, having acquired it from Van Waters & Rogers Inc. ("VW&R").

10. The Warren-Douglas Chemical Company repackaged mineral acids and industrial solvents, formulated paint thinner, manufactured disinfectants, blended mineral oils and feed additives for the agriculture industry, packaged antifreeze, blended dry products, reclaimed solvents, and blended pesticides at its facility, which was located on the property where the Facility and VW&R's facility is located, from 1954 to 1980.

11. VW&R acquired the Facility in 1980 when it merged with Warren-Douglas Chemical Company. VW&R's operations at the Facility included the distribution, repackaging, and blending of industrial chemicals such as acids, bases, and solvents, and the distribution and repackaging of pesticides. VW&R also manufactured a corrosive degreaser for the railroad industry and a blend of mineral oil and castor oil for the meat packing industry at the Facility. VW&R ceased operations at the Facility in 1989, and at that time began operations from a newly constructed distribution warehouse and bulk storage facility located on adjacent property located at 3002 "F" Street.

12. In 1990, Univar Corporation (an entity related to Respondent) acquired the Facility. VW&R continues to own an adjacent tract where its chemical distribution facility is currently located. The Facility is bounded on the west by the Union Pacific Railroad tracks, on the east by private residences and commercial establishments, and on the south by a commercial establishment.

13. No chemical distribution, repackaging, blending or other related activities have been conducted at the Facility since Respondent acquired it.

14. During VW&R's operation of the Facility from 1980 to 1989, certain hazardous wastes and damaged and off-specification chemicals were generated at the Facility. These hazardous wastes including those designated as D001, F002, F003, and F005, as set forth in 40 C.F.R. §§ 261.21 and 261.31.

15. On August 18, 1980, VW&R submitted to EPA a Notification of Hazardous Waste Activity ("Notification") pursuant to Section 3010(a) of RCRA, 42 U.S.C. § 6930(a), in which VW&R identified itself as a generator of hazardous wastes and an owner/operator of a treatment, storage, and/or disposal facility ("TSD") for hazardous wastes.

16. On November 20, 1980, VW&R submitted to EPA a Part A Hazardous Waste Permit Application ("Part A Application") pursuant to Section 3005(e) of RCRA, 42 U.S.C. § 6925(e), for the Facility. In the Part A Application, VW&R indicated that it treated corrosive acids at the Facility.

17. On January 31, 1983, VW&R submitted to the Nebraska Department of Environmental Quality ("NDEQ") a request to change its status from a generator/TSD to a small quantity hazardous waste generator and, on March 30, 1984, NDEQ acknowledged this change.

18. On April 5, 1985, VW&R submitted to NDEQ a request to change its status from a generator to a non-handler of hazardous wastes and be removed from the Hazardous Waste Management System.

19. On August 4, 1989, a RCRA Facility Assessment ("RFA") of the Facility was conducted by EPA. The RFA documented the presence of several stained soil areas which suggested that past releases of hazardous wastes or hazardous waste constituents had occurred. During the RFA several areas were identified where releases of hazardous wastes or hazardous waste constituents may have occurred due to the design and/or diminished structural integrity of containment systems.

20. After cessation of operations at the Facility in 1989, VW&R undertook the following interim response and mitigation measures: removal of all above-ground structures, installation of fences, repair of surface concrete, and capping of a portion of the Facility with a liner and gravel cover.

21. As a result of the RFA, EPA identified several areas requiring further assessment to determine whether contamination was present. In July 1990, VW&R conducted a Phase 1 Investigation to assess the possible presence of contamination in these areas. This investigation involved the collection of surface, subsurface, and concrete/asphalt samples for analysis for volatile organic compounds ("VOCs"), semi-volatile organic compounds ("SVOCs"), pesticides, polychlorinated biphenyls ("PCBs"), and inorganics/metals.

22. During the Phase 1 Investigation, VOCs were detected in each near-surface soil (0- to 2-foot) sample taken, with trichloroethene ("TCE") present at concentrations to 5.8 milligrams per kilogram ("mg/kg"). VOCs were also detected at each 4- to 6-foot depth sampling location, with TCE detected in this interval at levels to 250 mg/kg.

23. Pesticides were detected in 20 of the 24 soil samples analyzed as part of the Phase 1 Investigation. The frequency and magnitude of pesticide concentrations are generally higher in surface and near-surface soil and decrease with depth. The pesticide heptachlor was present in the 4- to 5-foot interval at levels to 240 mg/kg. The most frequently detected pesticide was dieldrin, which was detected in 11 of the samples at concentrations as high as 48 mg/kg in the 0- to 1-foot interval.

24. The results of the RFA and Phase 1 Investigation supported the conclusion that a RCRA Facility Investigation ("RFI") was necessary to further characterize the nature and extent of contamination at the Facility.

25. In April 1993, VW&R and EPA entered into an Administrative Order on Consent ("AOC") which required, among other things, that VW&R conduct a RFI and Corrective Measures Study ("CMS") for the purposes of fully characterizing the Facility-related contamination and identifying appropriate corrective measures to address the releases of hazardous wastes. This AOC bears EPA docket number VII-93-H-0011.

26. Fourteen areas of concern at the Facility were identified for investigation during the RFI. VOCs, SVOCs, pesticides, and metals were detected in the Facility's soils during the RFI. No PCBs or dioxins were found. TCE and tetrachloroethene ("PCE") were the VOCs most often detected in soil, with the highest levels found in the northwestern part of the Facility. The two highest TCE concentrations were 250 mg/kg detected in a soil sample taken at a depth of 4- to 5-feet and 150 mg/kg detected at 12 feet below ground surface ("bgs"). Samples collected at the ground surface were observed to have lower VOC concentrations than samples collected from the subsurface or from below paved areas. This is likely the result of a loss of mass through volatilization to the air.

27. During the RFI, the frequency and magnitude of VOC concentrations were observed to decrease with increasing depth but several VOCs, including chloroform, were detected at depths greater than 50 feet bgs.

28. The frequency and magnitude of pesticide concentrations were observed during the RFI to be highest in soil near the surface (less than 2 feet bgs) and to decline by orders of magnitude with increasing depth. Pesticides were not detected, or were detected at only trace concentrations, at depths greater than 12 feet bgs. The most frequently detected pesticides were aldrin, with the highest detected concentration being 240 mg/kg, and dieldrin, with the highest detected concentration being 48 mg/kg.

29. VOCs were detected in the groundwater at, and downgradient of, the Facility during the RFI. TCE was detected at the highest concentrations, between 19,000 and 24,000 micrograms per liter ("µg/l"), at a monitoring well (MW4S) located at the Facility. This is, presumably, near a soil source area. Approximately 700 feet downgradient of MW4S, at monitoring well MW71, the TCE concentration has ranged between 630 and 1,900 µg/l.

30. Pursuant to the AOC, VW&R submitted an RFI Report to EPA documenting the results of the RFI. This RFI Report was approved by EPA on January 21, 2000. NDEQ concurred on this approval.

31. During the RFI, Respondent identified the following hazardous wastes as constituents of concern ("COCs"). These COCs are present at the Facility at levels which may result in an unacceptable risk to human health.

Soil COCs
4,4-DDD
Aldrin
alpha-Chlordane
gamma-Chlordane
Dieldrin
Heptachlor
Heptachlor Epoxide
1,1-Dichloroethene
Chloroform
Tetrachloroethene
Toxaphene
Trichloroethene

Groundwater COCs
Carbon Tetrachloride
1,1-Dichloroethene
cis-1,2-Dichloroethene
Tetrachloroethene
1,1,1-Trichloroethane
Trichloroethene

32. Results of the RFI indicate that exposure to COCs in Facility soils through incidental ingestion, dermal contact, or inhalation of vapors or suspended soil particulates may pose an unacceptable risk to workers at the Facility.

33. The level of risk associated with COCs in groundwater is limited because groundwater is not used in the affected area. Furthermore, groundwater development in the area is restricted by municipal ordinance and is unlikely in the future. The area neighboring the Facility is well developed and is served by a municipal water supply. The source for the municipal water supply is distant from the Facility, and groundwater contamination emanating from the Facility does not appear to present a risk to this supply.

34. Downgradient surface water bodies may present a potential receptor for this contamination. This was evaluated during the RFI and it was found that groundwater discharging to the surface over a mile from the Facility at Spring Lake Park is not currently affected by the contamination. The data suggest that the COCs attenuate along the relatively lengthy groundwater flowpath before reaching the Spring Lake Park area. The primary potential receptors for future migration of contaminated groundwater from the Facility are surface waters near Spring Lake Park and the Missouri River. Some surface waters near Spring Lake Park may have recreational use now or in the future. The Missouri River is designated as a potential drinking water supply. The primary objective of the groundwater corrective measure to be implemented at the Facility is to ensure that neither the surface waters near Spring Lake Park nor the Missouri River becomes impacted by the contaminant plume from the Facility at levels above safe drinking waters standards (the maximum contaminant levels set forth at 40 C.F.R. Part 141).

35. Hazardous wastes and hazardous constituents found in the soil at the Facility during the RFI can cause adverse health effects in humans and animals. Some of the documented effects of exposure to these hazardous wastes and hazardous constituents are:

- a. 4,4-DDD (dichlorodiphenyldichloroethane) - 4,4-DDD is a pesticide similar to DDT (dichlorodiphenyltrichloroethane). EPA classifies 4,4-

DDD as a probable human carcinogen. High levels of 4,4-DDD can affect the nervous system causing excitability, tremors, and seizures. In women, 4,4-DDD can cause a reduction in the duration of lactation and an increased chance of premature birth.

- b. Aldrin and Dieldrin - Aldrin and dieldrin are the common names of two structurally similar compounds that were once used as insecticides. EPA has determined that aldrin and dieldrin are probable human carcinogens. Persons who ingest large amounts of aldrin or dieldrin may experience convulsions or other nervous system effects, kidney damage, and death. Exposure to moderate levels of dieldrin for a long time causes headaches, dizziness, irritability, vomiting, or uncontrollable muscle movements.
- c. alpha-Chlordane - Alpha-Chlordane ("Chlordane") is a manufactured chemical that was used as a pesticide in the United States from 1948 to 1988. Chlordane affects the nervous system, the digestive system, and the liver in people and animals. Headaches, irritability, confusion, weakness, vision problems, vomiting, stomach cramps, diarrhea, and jaundice have occurred in people who have breathed air containing high concentrations of chlordane or accidentally swallowed small amounts of chlordane. Chlordane ingestion may cause convulsions and death in humans.
- d. Heptachlor and Heptachlor Epoxide - Heptachlor was used extensively in the past for killing insects in homes, buildings, and on food crops, especially corn. Use slowed in the 1970s and ceased in 1988. Heptachlor epoxide is a white powder and is a breakdown product of heptachlor. Heptachlor and heptachlor epoxide are toxic to humans and animals and can damage the nervous system.
- e. 1,1-Dichloroethene - 1,1-Dichloroethene is an industrial chemical that is not found naturally in the environment. EPA has determined that 1,1-dichloroethene is a possible human carcinogen. It is known to damage the livers, kidneys, and lungs of laboratory animals.
- f. Chloroform - Chloroform is used to make other chemicals and can also be formed in small amounts when chlorine is added to water. Breathing chloroform for a short time can cause dizziness, fatigue, and headache. Breathing air, eating food, or drinking water containing high levels of chloroform for long periods of time may damage the liver and kidneys. Large amounts of chloroform can cause sores when chloroform touches the skin.
- g. Tetrachloroethene ("PCE") - PCE is a synthetic chemical that is widely used for dry cleaning of fabrics and for metal-degreasing operations. Inhaling PCE is known to produce loss of consciousness. Results of animal studies, conducted with amounts much higher than those that most people are exposed to, show that PCE can cause liver and kidney damage and liver and kidney cancers.

- h. Toxaphene - Toxaphene is an insecticide which is currently banned for all uses in the United States. Breathing, eating, or drinking high levels of toxaphene could damage the lungs, nervous system, and kidneys in humans and result in death.
- i. Trichloroethene ("TCE") - TCE is a colorless liquid which is used as a solvent for cleaning metal parts. Drinking or breathing high levels of trichloroethylene may cause nervous system effects, liver and lung damage, abnormal heartbeat, coma, and possibly death.

36. Hazardous wastes and hazardous constituents found in the groundwater at the Facility during the RFI can cause adverse health effects in humans and animals. Some of the documented effects of exposure to these hazardous wastes and hazardous constituents are:

- a. Carbon Tetrachloride - Exposure to very high amounts of carbon tetrachloride can damage the liver, kidneys, and nervous system. Carbon tetrachloride has caused cancer in animals.
- b. 1,1-Dichloroethene - Discussed in paragraph 35.e. above.
- c. Cis-1,2-Dichloroethene - Breathing high levels of cis-1,2-dichloroethene can cause nausea, drowsiness, and fatigue.
- d. Tetrachloroethene ("PCE") - Discussed in paragraph 35.g. above.
- e. 1,1,1-Trichloroethane - Inhaling high levels of 1,1,1-trichloroethane can cause dizziness and lightheadedness. Exposure to much higher levels can cause unconsciousness and other effects.
- f. Trichloroethene ("TCE") - Discussed in paragraph 35.i. above.

37. Pursuant to the AOC, VW&R developed and evaluated potential corrective measures to address those releases of hazardous wastes that had been identified at the Facility and recommended corrective measures in a CMS Report. This CMS Report was approved by EPA on September 6, 2001. NDEQ concurred on this approval.

38. A Statement of Basis detailing the corrective measures studied and explaining the factors that led to the proposal by EPA of the corrective measures for implementation at the Facility was made available by EPA to the public for comment during the period May 12, 2003, through June 26, 2003. No comments on the corrective measures proposed for implementation at the Facility were received by EPA.

39. In December 2004, EPA issued the FD-RTC for the Facility. The FD-RTC is EPA's decision document selecting the corrective measures for implementation at the Facility. The corrective measures selected for implementation at the Facility are:

- a. For contaminated soils - There are two components to this action: (i) the construction and maintenance of an engineered cover over areas of the

Facility where soil is contaminated; and (ii) the establishment of institutional controls.

- b. For contaminated groundwater located on-site - Extraction through pumping, treatment, and disposal by discharge into the local sanitary sewer system.
- c. For contaminated groundwater migrating off-site - Contaminated groundwater has migrated off-site. The groundwater extraction, treatment, and disposal measure described above will not be effective in capturing all of this off-site groundwater. A long term groundwater monitoring program which will include downgradient monitoring wells will be established to verify that this off-site contaminated groundwater does not reach receptors at levels of concern. Monitoring data will be used to confirm the effectiveness of natural processes in attaining media cleanup standards. In addition to monitoring, a contingency plan will be prepared. This contingency plan will provide a mechanism to invoke containment or treatment measures, if future monitoring results indicate that natural processes are insufficient to achieve media cleanup standards.

V. CONCLUSIONS OF LAW AND DETERMINATIONS

40. Based upon the foregoing Findings of Fact and the administrative record, the Director of EPA Region VII's Air, RCRA and Toxics Division makes the following conclusions of law and determinations:

- a. Respondent is a "person" within the meaning of Section 1004(15) of RCRA, 42 U.S.C. § 6903(15).
- b. Respondent is the owner or operator of a facility that has operated or is operating subject to Section 3005(e) of RCRA, 42 U.S.C. § 6925(e).
- c. Certain wastes and constituents thereof found at the Facility, as detailed in the Findings of Fact above, are hazardous wastes and/or hazardous waste constituents as defined by Section 1004(5) of RCRA, 42 U.S.C. § 6903(5); Section 3001 of RCRA, 42 U.S.C. § 6921; and 40 C.F.R. Parts 260 and 261.
- d. There is or has been a release of hazardous wastes and/or hazardous waste constituents into the environment from the Facility.
- e. The actions required by this Order are necessary to protect human health and/or the environment.

VI. PROJECT COORDINATORS

41. EPA designates the individual listed below as its Project Coordinator for the purposes of this Order:

Don Bahnke
SUPR/FFSE
U.S. Environmental Protection Agency
901 North 5th Street
Kansas City, Kansas 66101
Telephone: 913-551-7747
Facsimile: 913-551-9747
bahnke.donald@epa.gov

42. Respondent designates the individual listed below as its Project Coordinator for the purposes of this Order:

James Hooper
Director, Environmental Affairs
Univar USA Inc.
66 Feece Dr.
Batavia, Illinois 60510
Telephone: 630-761-0486
Fax: 630-761-0586
james.hooper@univarusa.com

43. The Project Coordinators shall be responsible for overseeing the implementation of this Order and shall serve as each party's designated representative. All communications between Respondent and EPA, and all records, documents, reports, approvals, and other correspondence concerning the work performed pursuant to this Order shall be directed through the Project Coordinators or their authorized representatives.

44. Respondent shall provide at least 10 days written notice to EPA prior to changing its Project Coordinator. EPA will provide to Respondent written notice upon any change of its designated Project Coordinator.

45. The absence of EPA's Project Coordinator from the Facility shall not be cause for the stoppage of work.

VII. WORK TO BE PERFORMED

46. Respondent is hereby ordered to perform the acts described below in the manner and by the dates specified. All work undertaken pursuant to this Order (the "Work") shall be performed in a manner consistent with: (a) the SOW; (b) RCRA and its implementing regulations; and (c) applicable and published EPA guidance documents. Applicable guidance documents include, but are not limited to, *RCRA Ground Water Monitoring Technical Enforcement Guidance Document* (OSWER Directive 9950.1, September 1986), *Test Methods for Evaluating Solid Waste* (SW-846, 1988), *Construction Quality Assurance for Hazardous Waste Land Disposal Facilities* (EPA 530/SW-85-031, July 1986), *Methods for Evaluating the Attainment of Cleanup Standards*, Volume 1 Soils and Solid Media (EPA 230/02-89-042), and other guidance as identified by EPA.

47. Pursuant to Section 3008(h) of RCRA, 42 U.S.C. § 6928(h), the parties agree and Respondent is hereby ordered to perform the following acts in the manner and by the dates specified herein to implement the corrective measures selected by EPA.

48. Commencing on the effective date of this Order, Respondent shall refrain from using the Facility in any manner which would interfere with or adversely affect the integrity or protectiveness of the corrective measures to be implemented pursuant to this Order. Such restrictions include, but are not limited to:

- a. the Facility or any portion thereof shall not be used for any use other than industrial or commercial use; child care facilities and schools shall be prohibited;
- b. soils located on the Facility in contaminated areas shall not be excavated without EPA's prior written approval, except for minor excavations necessary to install, maintain or repair utility poles, fence posts, sidewalks, paving, and other comparable activities, as well as minor excavations necessary to maintain or repair existing underground utilities and minor excavations in connection with landscaping activities;
- c. any excavations in contaminated areas shall be conducted in accordance with worker protection and soil disposal requirements as may be required by applicable laws and requirements; and
- d. no water well(s), except monitoring wells, shall be installed at the Facility.

49. Within 60 days of the effective date of this Order, Respondent shall submit to EPA for review and approval the following:

- a. a Corrective Measures Implementation Workplan ("CMI Workplan"), prepared in accordance with Task 1 of the attached SOW. The EPA approved CMI Workplan shall be implemented by Respondent according to the schedule contained therein;

- b. a Health and Safety Plan ("HSP") prepared in accordance with Task 2 of the attached SOW. (While EPA will not approve the HSP, it will review it and may provide comments.);
- c. an Operation and Maintenance ("O&M") Plan prepared in accordance with Task 3 of the attached SOW;
- d. a Community Relations Plan ("CRP") prepared in accordance with Task 4 of the attached SOW.

50. Within 60 days of the completion of physical construction of the corrective measures required by this Order, Respondent shall submit to EPA for review and approval a Construction Completion Report ("CCR") prepared in accordance with Task 5 of the attached SOW.

51. Within 60 days of the 5-year anniversary of EPA's approval of the CCR, Respondent shall submit to EPA for review and approval a 5-Year Corrective Measures Performance Evaluation Report prepared in accordance with Task 6 of the attached SOW.

52. Within 45 days after Respondent obtains information demonstrating that the completion criteria for all of the corrective measures have been achieved, Respondent shall submit to EPA for review and approval a Corrective Measures Completion Report ("CMCR") that presents a summary of such information in sufficient detail and quality to provide EPA a basis to confirm that the criteria have been satisfied. The CMCR shall be prepared in accordance with Task 7 of the attached SOW.

53. Respondent shall submit progress reports to EPA as provided in Task 8 of the attached SOW. Reports for the ongoing Groundwater Monitoring Program shall be included with the progress reports.

VIII. SUBMISSIONS/AGENCY APPROVALS/ADDITIONAL WORK

54. Respondent shall submit 2 copies of all documents to be submitted pursuant to this Order to each of: (a) EPA's Project Coordinator at the address provided in Section VI (Project Coordinators) above; and (b) Bill Gidley, Nebraska Department of Environmental Quality, P.O. Box 98922, 1200 N Street, Suite 400, The Atrium, Lincoln, NE 68509-8922.

55. The following procedure will apply to the review and approval of all plans, reports, or other documents submitted to EPA for review and approval. EPA will review each such document and notify Respondent, in writing, as to its approval or disapproval thereof. In the event that EPA does not approve any such document, it will provide written comments regarding the basis of the disapproval. Within 30 days of receipt of EPA's comments, or such longer time period as agreed to in writing by EPA, Respondent shall modify the submission to respond to EPA's comments, and shall submit the revised document to EPA. Revised submittals are subject to EPA approval, approval with conditions, disapproval, or disapproval with comments and/or modifications. If any revised submittal is disapproved, Respondent shall be deemed to have

failed to submit such plan, report, or other document in a timely and adequate manner. EPA may thereafter issue the resubmittal in accordance with EPA's requirements. EPA's determination that any submission does not conform to the requirements of this Order shall be subject to the Dispute Resolution procedures set forth in Section XI below; however, invocation of dispute resolution shall not stay Respondent's obligation to perform any work required by any approved or modified document. EPA-approved reports and workplans shall be deemed incorporated into and made a part of this Order.

56. EPA may determine, or Respondent may propose, that certain tasks, including investigatory work, engineering evaluation, or procedure/methodology modifications, are necessary in addition to or in lieu of the tasks included in any EPA-approved workplan, when such additional work is necessary to meet the purposes set forth in Section II (Statement of Purpose). If EPA determines that such additional work is necessary, EPA will notify Respondent in writing and specify the basis for its determination that the additional work is necessary. Within 30 days after the receipt of such determination, Respondent shall have the opportunity to meet or confer with EPA to discuss the additional work. If required by EPA, Respondent shall submit for EPA approval a workplan for the additional work. EPA will specify the contents of such workplan. Such workplan shall be submitted within 30 days of Respondent's receipt of EPA's determination that additional work is necessary, or according to an alternative schedule established by EPA. Upon approval of a workplan by EPA, Respondent shall implement it in accordance with the schedule and provisions contained therein.

IX. ACCESS/INSTITUTIONAL CONTROLS

Property Owned or Controlled by Respondent

57. If the Facility, or any other property where access and/or land/water use restrictions are needed to implement this Order, is owned or controlled by Respondent, Respondent shall:

- a. Commencing on the effective date of this Order, provide to EPA, the State, and their representatives, including contractors, access at all reasonable times to the Facility, or such other property, for the purpose of conducting any activity related to this Order including, but not limited to, the following:
 - i. Monitoring the Work;
 - ii. Verifying any data or information submitted to EPA;
 - iii. Conducting investigations relating to contamination at or near the Facility;
 - iv. Obtaining samples;
 - v. Assessing the need for, planning, or implementing additional response actions at or near the Facility;

- vi. Inspecting and copying records, operating logs, contracts, or other documents maintained or generated by Respondent or its agents;
 - vii. Assessing Respondent's compliance with this Order; and
 - viii. Determining whether the Facility or other property is being used in a manner that is prohibited or restricted, or that may need to be prohibited or restricted, by or pursuant to this Order;
- b. commencing on the effective date of this Order, refrain from using the Facility, or such other property, in any manner that would interfere with or adversely affect the implementation, integrity, or protectiveness of the corrective measures to be implemented pursuant to this Order; and
- c. execute and record in the Recorder's Office (or other appropriate land records office) of Douglas County, Nebraska, an easement, restrictive covenant, or other appropriate instrument ("instrument") that runs with the land, and grants to a third party acceptable to EPA, and to EPA as a third-party intended beneficiary, the right to enforce any land/water use restrictions required by this Order, or other restrictions that EPA determines are necessary to ensure non-interference with, or ensure the protectiveness of, the corrective measures to be implemented pursuant to this Order. Respondent shall, within 30 days of EPA's approval of the CMI Workplan, submit to EPA for review and approval with respect to such property:
- i. A draft instrument that is enforceable under the laws of the State of Nebraska; and
 - ii. A current title insurance commitment or some other evidence of title acceptable to EPA, which shows title to the land described in the instrument to be free and clear of all prior liens and encumbrances (except when those liens or encumbrances are approved by EPA or when, despite best efforts, Respondent is unable to obtain release or subordination of such prior liens or encumbrances).

Within 15 days of EPA's approval and acceptance of the instrument and title evidence, Respondent shall update the title search and, if it is determined that nothing has occurred since the effective date of the commitment to adversely affect title, record the instrument with the Recorder's Office (or other appropriate land records office) of Douglas County, Nebraska. Within 45 days of recording the instrument, Respondent shall provide to EPA a final title insurance policy, or other

final evidence of title acceptable to EPA, and a certified copy of the original recorded instrument showing the clerk's recording stamps.

Property Owned or Controlled by Persons Other Than Respondent

58. If the Facility, or any other property where access and/or land/water use restrictions are needed to implement this Order, is owned or controlled by persons other than Respondent, Respondent shall use best efforts to secure from such persons:

- a. within 60 days of EPA's approval of the CMI Workplan, an agreement to provide access to such property to EPA and the State, as well as their representatives (including contractors), for the purpose of conducting any activity related to this Order including, but not limited to, those activities set forth in paragraph 57.a. above;
- b. within 30 days of EPA's approval of the CMI Workplan, an agreement, enforceable by Respondent and EPA, to refrain from using the Facility, or such other property, in any manner that would interfere with or adversely affect the implementation, integrity, or protectiveness of the corrective measures to be implemented pursuant to this Order;
- c. the execution and recordation in the Recorder's Office (or other appropriate land records office) of Douglas County, Nebraska, of an appropriate instrument, running with the land, that grants to a third party acceptable to EPA, and to EPA as a third-party intended beneficiary, the right to enforce any land/water use restrictions required by this Order, or other restrictions that EPA determines are necessary to ensure non-interference with, or ensure the protectiveness of, the corrective measures to be implemented pursuant to this Order. Within 30 days of EPA's approval of the CMI Workplan, Respondent shall submit to EPA for review and approval with respect to such property:
 - i. A draft instrument that is enforceable under the laws of the State of Nebraska, and
 - ii. a current title insurance commitment, or some other evidence of title acceptable to EPA, which shows title to the land described in the instrument to be free and clear of all prior liens and encumbrances (except when those liens or encumbrances are approved by EPA or when, despite best efforts, Respondent is unable to obtain release or subordination of such prior liens or encumbrances).

Within 15 days of EPA's approval and acceptance of the instrument and title evidence, Respondent shall update the title search and, if it is determined that nothing has occurred since the effective date of the commitment to adversely

affect title, the instrument shall be recorded with the Recorder's Office (or other appropriate land records office) of Douglas County, Nebraska. Within 30 days of the recording of the instrument, Respondent shall provide to EPA a final title insurance policy, or other final evidence of title acceptable to EPA, and a certified copy of the original recorded instrument showing the clerk's recording stamps.

59. As used in this Section, "best efforts" includes the payment of reasonable sums of money in consideration of access, access easements, land/water use restrictions, restrictive easements, and/or an agreement to release or subordinate a prior lien or encumbrance. If: (a) any access or land/water use restriction agreements required by this Section are not obtained within 30 days of Respondent's receipt of EPA's approval of the CMI Workplan; (b) any instrument required by paragraph 58.c. of this Order is not submitted to EPA in draft form within 30 days of Respondent's receipt of EPA's approval of the CMI Workplan; or (c) Respondent is unable to obtain an agreement from the holder of a prior lien or encumbrance to release or subordinate such lien or encumbrance to the instrument within 30 days of Respondent's receipt of EPA's approval of the CMI Workplan, Respondent shall promptly notify EPA in writing, and shall include in that notification a summary of the steps that it has taken to attempt to comply with paragraphs 57 or 58 of this Order. EPA may, as it deems appropriate, assist Respondent in obtaining access or land/water use restrictions, or in obtaining the release or subordination of a prior lien or encumbrance.

60. If EPA determines that land/water use restrictions in the form of state or local laws, regulations, ordinances or other governmental controls are needed to implement the corrective measures required by this Order, ensure the integrity and protectiveness thereof, or ensure non-interference therewith, Respondent shall cooperate with EPA's and the State's efforts to secure such governmental controls.

61. Notwithstanding any provision of this Order, EPA and the State retain all of their access authorities and rights, as well as all of their rights to require land/water use restrictions, including enforcement authorities related thereto, under RCRA and any other applicable statute or regulations.

X. SAMPLING AND DATA/DOCUMENT AVAILABILITY

62. Respondent shall notify EPA at least 30 days prior to initiating any field activities, such as well drilling, installation of equipment or sampling. At the request of EPA, Respondent shall provide or allow EPA or its authorized representatives to take split samples of all samples collected by Respondent pursuant to this Order.

63. Respondent may assert a business confidentiality claim covering all or part of any information submitted to EPA pursuant to this Order. Any confidentiality claim shall be adequately substantiated by Respondent when such claim is made. Information determined to be confidential by EPA will be disclosed only to the extent and by the procedures specified by 40

C.F.R. Part 2. If no such confidentiality claim accompanies the information when it is submitted to EPA, the information may be made available to the public by EPA without further notice to Respondent. In no event shall physical or analytical environmental sampling data collected pursuant to this Order be deemed confidential, and Respondent agrees not to assert a confidentiality claim regarding same.

XI. DISPUTE RESOLUTION

64. The parties recognize that a dispute may arise between the parties regarding the content of deliverables required to be submitted under this Order, or concerning any other decision or directive made by EPA. If such a dispute arises, the parties will endeavor to settle it by informal negotiations between themselves. If the parties cannot resolve the issue informally, Respondent may notify EPA in writing of its position and its decision to invoke the dispute resolution provisions of this Section. EPA will respond in writing within 14 days of receipt of Respondent's statement of position, stating EPA's position with regard to the dispute and the reasons therefor. EPA and Respondent shall then have 30 days from Respondent's receipt of EPA's statement of position to attempt in good faith to resolve the dispute. The parties may agree in writing to a mutual extension of the 30 day time period set forth above if negotiations are continuing in good faith. During the 30 day period of negotiations by Respondent and EPA under this paragraph, Respondent shall not be excused from performing any requirement of this Order that is not the subject of such dispute. If agreement is reached, the resolution shall be reduced to writing, signed by representatives of each party and shall be incorporated into and become a part of this Order.

65. If the parties are unable to reach agreement within the aforesaid 30 day period the matter shall be referred to the Director of EPA, Region VII's Air, RCRA and Toxics Division. The Director shall then decide the matter and provide a written statement of his/her decision to Respondent. Such a decision shall then be incorporated into and become a part of this Order.

66. Notification by Respondent of a dispute pursuant to this Section shall not alter or delay any other obligations of Respondent under this Order.

67. No action or decision by EPA, including without limitation, decisions of the Director, or his/her designates, pursuant to this Order, shall constitute final agency action giving rise to any rights to judicial review prior to EPA's initiation of judicial action to compel Respondent's compliance with the requirements of this Order.

XII. FORCE MAJEURE

68. Respondent shall perform the requirements of this Order within the time periods set forth or approved herein, except to the extent that performance is prevented or delayed by events which constitute a *force majeure*. For the purposes of this Order, a *force majeure* is defined as an event arising from causes beyond Respondent's control which could not be overcome by due

diligence and which delays performance of any obligation required by this Order. Respondent shall have the burden of proving a *force majeure*. Such events shall not include increased costs of performance, changed economic circumstances, normal precipitation events, changed circumstances arising out of the sale, lease or other transfer of Respondent's interest in any or all portions of the Facility, or failure to obtain federal, state, or local permits unless Respondent has sought such permits in a timely and complete manner.

69. Respondent shall notify EPA in writing within 10 days after it becomes aware of an event which Respondent knows, or has reason to believe, may constitute a *force majeure*. Such notice shall estimate the anticipated length of delay, including necessary demobilization and remobilization, its cause, measures taken or to be taken to minimize the delay and an estimated timetable for implementation of these measures. Respondent's failure to comply with the notice provision of this Section shall constitute a waiver of Respondent's right to assert a *force majeure*.

70. If EPA determines that a *force majeure* has or will occur, the time for performance for that element of Work which is affected by the *force majeure* may be extended for a period equal to the delay caused by the *force majeure*. This extension shall be accomplished through an amendment to this Order pursuant to Section XIX (Modification) hereof. Such an extension shall not alter the schedule for performance or completion of other tasks required by this Order.

71. If EPA and Respondent cannot agree that a *force majeure* event has occurred the dispute shall be resolved in accordance with Section XI (Dispute Resolution) of this Order.

XIII. STIPULATED PENALTIES

72. If Respondent fails to comply with any requirement of this Order in a timely and satisfactory manner, Respondent shall pay stipulated penalties as set forth below, unless: (a) there has been a written modification of a compliance date by EPA, or (b) EPA has approved, in writing, Respondent's written request for an extension of time, or (c) a delay excusable pursuant to Section XII (Force Majeure) of this Order has arisen.

a. For failure to submit a progress report as required in this Order:

for days 1-7; \$250 per day;
for days 8-14; \$500 per day; and
for days 15 and thereafter; \$1,000 per day.

b. For failure to submit the following as required by this Order:

- i. CMI Workplan,
- ii. Health and Safety Plan,
- iii. Operation and Maintenance Plan,
- iv. Community Relations Plan,

- v. Construction Completion Report;
- vi. 5-Year Corrective Measures Performance Evaluation Report,
- vii. Corrective Measures Completion Report, or
- viii. An agreement, easement, or title insurance commitment as required by Section IX (Access/Institutional Controls).

for days 1-7; \$500 per day;
for days 8-30; \$1,250 per day; and
for days 31 and thereafter; \$2,500 per day.

- c. For failure to complete any Work required by this Order, exclusive of document submittal:

for days 1-7; \$1,000 per day;
for days 8-30; \$1,750 per day; and
for days 31 and thereafter; \$2,500 per day.

73. All penalties shall begin to accrue on the first business day after complete performance is due or a violation occurs, and shall continue to accrue through the final day of correction of the noncompliance. Nothing herein shall prevent the simultaneous accrual of separate penalties for separate violations of this Order.

74. All penalties owed to EPA pursuant to this Section shall be due within 30 days after Respondent's receipt of a written notification of the assessment thereof. Such notification will describe the noncompliance and will indicate the amount of the penalties due. In the event that any payment due is not paid as provided above, interest shall accrue at the rate determined by the Secretary of the Treasury (currently 1% per annum for the period January 1, 2005, through December 31, 2005) on the unpaid balance until such payment and accrued interest are both paid in full.

75. All penalties shall be paid by wire transfer directed to SWIFT address MELNUS3P, Mellon Bank, ABA 043000261, Account 9109125, 22 Morrow Drive, Pittsburgh, Pennsylvania 15235. All payments shall reference the name of the Facility, Respondent's name, and the EPA docket number of this Order. A copy of the transmittal of payment shall be sent simultaneously to EPA's Project Coordinator.

XIV. FINANCIAL ASSURANCE

Cost Estimate

76. Within 30 days after EPA's approval of the CMI Workplan, Respondent shall submit to EPA for review and approval a detailed written initial estimate, in current dollars, of the cost

of hiring a third party to perform the Work. The initial cost estimate must account for the total costs of the Work for the entire period of this Order, including any necessary long term costs, such as operation and maintenance costs and monitoring costs. A third party is a party who is neither a parent nor a subsidiary of Respondent, and does not share a common parent or subsidiary with Respondent. The cost estimate must not incorporate any salvage value that may be realized from the sale of wastes, Facility structures or equipment, land or other assets associated with the Facility.

77. While this Order is in effect, Respondent must annually adjust the cost estimate for inflation within 30 days after the close of Respondent's fiscal year. In addition, Respondent must adjust the cost estimate if EPA determines that any additional work is required, pursuant to Section VIII (Submissions/Agency Approvals/Additional Work), or if any other condition increases the cost of the Work.

Financial Assurance

78. In order to secure the completion of the Work, Respondent shall establish financial assurance for EPA's benefit. Concurrently with Respondent's submission of the initial cost estimate required above, Respondent shall submit draft financial assurance instruments for EPA's review and approval. Within 60 days after EPA's approval of both the initial cost estimate and the draft financial assurance instruments, whichever date is later, Respondent shall establish financial assurance in an amount at least equal to the initial cost estimate approved by EPA.

79. Respondent may use any of the instruments generally described below. Any and all financial assurance instruments provided pursuant to this Order shall be in form and substance satisfactory to EPA, determined in EPA's sole discretion.

- a. A trust fund administered by a trustee which is an entity that has the authority to act as a trustee and whose trust operations are regulated and examined by a U.S. Federal or State agency and that is acceptable to EPA. The trust agreement shall provide that the trustee shall make payments from the fund as EPA directs in writing to: (i) reimburse Respondent from the fund for expenditures made by Respondent for Work performed; or (ii) pay any other person whom EPA's Project Coordinator determines has performed or will perform the Work.
- b. A surety bond unconditionally guaranteeing performance of the Work, or guaranteeing payment at the direction of EPA into a standby trust fund that meets the requirements of the trust fund in subparagraph 79.a. above. The surety company issuing the bond must, at a minimum, be among those listed as acceptable sureties on Federal Bonds as set forth in Circular 570 of U.S. Department of the Treasury, and acceptable to EPA.

- c. One or more irrevocable letters of credit, payable at EPA's direction, into a standby trust fund that meets the requirements of the trust fund in subparagraph 79.a. above. The letter(s) of credit must be issued by one or more financial institution(s) that have the authority to issue letters of credit, whose letter-of-credit operations are regulated and examined by a U.S. Federal or State agency, and that are acceptable to EPA.
- d. A policy of insurance that is issued by an insurance carrier that is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer in Nebraska, and governed by terms and conditions acceptable to EPA. The insurance policy must be issued for a face amount at least equal to the current cost estimate for the Work, except where costs not covered by the insurance policy are covered by another financial assurance instrument, as permitted in paragraph 82 of this Section. The policy must provide that the insurer may not cancel, terminate, or fail to renew the policy, except for the failure to pay the premium. If there is a failure to pay the premium, the insurer may cancel the policy by sending a notice of cancellation by certified mail to Respondent and EPA's Project Coordinator, except that cancellation, termination or failure to renew may not occur during the 120 days beginning with the date of receipt of the notice by both EPA's Project Coordinator and Respondent. The policy must provide that the insurer shall make payments as EPA may direct in writing to: (i) reimburse Respondent for expenditures made by Respondent for Work performed; or (ii) pay any other person whom EPA determines has performed or will perform the Work, up to an amount equal to the face amount of the policy.
- e. A written guarantee, executed in favor of EPA by one or more parent companies or subsidiaries of Respondent, or by one or more unrelated companies that have a substantial business relationship with Respondent to perform the Work or to establish a trust fund as permitted by subparagraph 79.a.; provided, however, that any company providing such a guarantee must demonstrate to EPA's satisfaction that it satisfies the financial test requirements of 40 C.F.R. § 264.143(f) with respect to the costs for the work that it proposes to guarantee; or
- f. A written guarantee, executed in favor of EPA by Respondent, to perform the work in accordance with this Order or to establish a trust fund as permitted by Subparagraph 79.a.; provided, however, that Respondent must demonstrate to EPA's satisfaction that it satisfies the financial test requirements of 40 C.F.R. § 264.143(f) with respect to the costs of the Work that it proposes to guarantee.

80. For the purposes of the financial test guarantees described in subparagraphs 79.e. and 79.f. above, references in 40 C.F.R. § 264.143(f) to "the sum of current closure and post-closure costs and the current plugging and abandonment cost estimates" shall mean "the sum of all

environmental remediation obligations (including obligations under CERCLA, RCRA, UIC, PCB, TSCA, and any other state or tribal environmental obligation) guaranteed by such company or for which such company is otherwise financially obligated" in addition to the cost of the Work to be performed in accordance with this Order.

81. If Respondent seeks to post financial assurance for completion of the Work by means of a guarantee pursuant to subparagraph 79.e. or 79.f. of this Section, Respondent shall also comply with the other requirements of 40 C.F.R. § 264.143(f), 40 C.F.R. § 264.151(f), and 40 C.F.R. § 264.151(h)(1), relating to the financial test and corporate guarantee: (a) the initial submission of required reports and statements from the guarantor's chief financial officer and independent certified public accountant; (b) the annual re-submission of such reports and statements within 90 days after the close of each of the guarantor's fiscal years; and (c) the notification of EPA within 90 days after the close of any of the guarantor's fiscal years in which any such guarantor no longer satisfies the financial test requirements set forth at 40 C.F.R. § 264.143(f)(1). EPA reserves the right to request additional information (including financial statements and accountant's reports) from Respondent or corporate guarantor at any time.

82. Respondent may combine more than one mechanism to demonstrate financial assurance for the Work to be performed in accordance with this Order, except that mechanisms guaranteeing performance rather than payment may not be combined with other instruments.

83. The original financial assurance instrument(s) provided pursuant to this Order (including, without limitation, the original versions of letters of credit and other negotiable instruments issued for EPA's benefit) shall be submitted by Respondent to EPA's Project Coordinator.

84. In the event that EPA determines at any time that the financial assurances provided pursuant to this Section are inadequate, or in the event that Respondent becomes aware of information indicating that any financial assurances provided pursuant to this Section no longer satisfy the requirements set forth herein (including, without limitation, that any third-party provider of such assurances such as a surety, trustee, financial institution, insurer, and/or any guarantor no longer qualifies to provide such assurances or the amount provided for in such financial assurance instrument becomes inadequate), then Respondent shall, within 30 days of receipt of notice of EPA's determination or, as the case may be, within 30 days of becoming aware of such information, obtain and present to EPA for approval a revised form of financial assurance (and otherwise acceptable under this Section) that covers such cost increase.

85. Whenever the adjusted estimate for the cost of completing the remaining Work exceeds the amount of financial assurances already provided pursuant to this Section, Respondent shall, within 30 days following such determination, obtain and present to EPA for approval a revised form of financial assurance (and otherwise acceptable under this Section) that covers such cost increase.

86. Respondent's inability to post financial assurance for the completion of the Work shall in no way excuse performance of any other requirements of this Order, including, without limitation, Respondent's obligation to complete the Work.

87. Any and all financial assurance instruments provided pursuant to subparagraphs b, c, d or e of paragraph 79 of this Section shall be automatically renewable at the time of their expiration unless the financial assurance provider has notified both Respondent and EPA's Project Coordinator at least 120 days prior to cancellation of the instrument. Furthermore, if Respondent has failed to provide alternate financial assurance and obtain EPA's written approval for such financial assurance within 90 days following receipt of such notice by both Respondent and EPA's Project Coordinator, then EPA's Project Coordinator will so notify the financial assurance provider in writing prior to the expiration of the instrument, and the financial assurance provider shall immediately deposit into the standby trust fund, or a newly created trust fund approved by EPA, the remaining funds obligated under the financial assurance instrument for the performance of the Work required pursuant to this Order.

88. Any and all financial assurance instruments provided pursuant to this Order shall provide for timely payment, as directed by EPA, or performance of the Work, or a combination of payment and Work, in the event that EPA determines that Respondent has: (i) ceased implementation of any portion of the Work; (ii) is significantly or repeatedly deficient or late in its performance of the Work; or (iii) is implementing the Work in a manner that may cause an endangerment to human health or the environment. EPA's Project Coordinator will notify in writing both Respondent and the financial assurance provider of such a determination, and the financial assurance provider shall, within 30 days of Respondent's receipt of such notice, deposit into the standby trust fund, or a newly created trust fund approved by EPA, the remaining funds obligated under the financial assurance instrument for the performance of the Work.

89. Respondent may invoke the procedures set forth in Section XI (Dispute Resolution), to dispute EPA's determination that any of the circumstances described in clauses (i), (ii), or (iii) of paragraph 88 have occurred. Invoking the dispute resolution provisions shall not excuse, toll or suspend the obligation of the financial assurance provider, under paragraph 88, to fund the trust fund, but if Respondent disputes EPA's determination under paragraph 88, EPA will not direct the trustee to make any payments from the trust fund, pending resolution of the dispute.

90. If EPA has determined that any of the circumstances described in clauses (i), (ii), or (iii) of paragraph 88 have occurred, and if EPA is nevertheless unable after reasonable efforts to secure the payment of funds or performance of the Work in accordance with this Order from the financial assurance provider pursuant to this Order, then, upon receiving written notice from EPA, Respondent shall within 10 days thereafter deposit into the standby trust fund, or a newly created trust fund approved by EPA, in immediately available funds and without setoff, counterclaim, or condition of any kind, a cash amount equal to the estimated cost of the remaining Work to be performed as of such date, as determined by EPA.

91. Reduction of Amount of Financial Assurance. If Respondent believes that the estimated cost to complete the remaining Work has diminished below the amount covered by the existing financial assurance provided under this Order, Respondent may, on any anniversary date of the effective date of this Order, or at any other time agreed to by EPA, submit a written proposal to EPA to reduce the amount of the financial assurance provided under this Section to the estimated cost of the remaining Work to be performed. The written proposal shall specify, at a minimum, the cost of the remaining Work to be performed and the basis upon which such cost was calculated. The decision whether to approve a proposal to reduce the amount of financial assurance shall be within EPA's sole discretion and EPA will notify Respondent of its decision regarding such a proposal in writing. Respondent may reduce the amount of the financial assurance only after receiving EPA's written decision and only in accordance with and to the extent permitted by such written decision.

92. Change of Form of Financial Assurance. If Respondent desires to change the form of financial assurance, Respondent may, on any anniversary of the effective date of this Order, or at any other time agreed to by EPA, submit a written proposal to EPA to change the form of financial assurance. Such a proposal shall specify, at a minimum, the cost of the remaining Work to be performed, the basis upon which such cost was calculated, and a detailed description of the proposed revised form of financial assurance. The decision whether to approve a proposal to change the form of financial assurance shall be within EPA's sole discretion. EPA will notify Respondent of its decision regarding such a proposal in writing. After receiving EPA's written acceptance, Respondent may change the form of financial assurance in accordance with and to the extent permitted by such written acceptance.

93. Release of Financial Assurance. Respondent may submit a written request to EPA's Project Coordinator that EPA release Respondent from the requirement to maintain financial assurance under this Section when Respondent demonstrates in writing and certifies to the satisfaction of EPA that all activities required under this Order, including any additional work, and payment of any stipulated penalties demanded by EPA have been performed and EPA has approved the certification in accordance with Section XXII (Termination and Satisfaction). The provider of the financial assurance may be released from its obligations under the instrument only upon a written release from EPA's Project Coordinator.

XV. RECORD PRESERVATION

94. For the purpose of this Section, "record(s)" shall mean all original copies of field notes and test and sampling results, and copies of documents, data, records, drawings, and tabulations prepared by Respondent or its employees, agents, or contractors which relate in any way to this Order, expressly excluding any such record which is attorney work product and/or attorney-client privileged.

95. Respondent shall preserve its records during the pendency of this Order and for a minimum of 6 years after the termination of this Order. Thereafter, Respondent shall notify EPA

in writing 30 days prior to the destruction of any such record. Upon EPA's request within such 30 day period, Respondent shall make available to EPA such records.

XVI. RESERVATION OF RIGHTS

96. EPA hereby expressly reserves all rights and defenses that it may have, including its right to disapprove of work performed by Respondent and to require that Respondent perform tasks in addition to those stated herein.

97. EPA hereby expressly reserves all of its statutory and regulatory powers, authorities, rights, remedies, both legal and equitable, including, without limitation, the assessment of penalties under Section 3008(h)(2) of RCRA, 42 U.S.C. § 6928(h)(2). Except as expressly provided otherwise, this Order shall not be construed as a covenant not to sue, or as a release, waiver or limitation of any rights, remedies, powers and/or authorities, civil or criminal, which EPA has under RCRA or any other statutory, regulatory or common law authority of the United States.

98. Compliance by Respondent with the terms of this Order shall not relieve Respondent of its obligations to comply with RCRA or any other applicable local, state or federal laws and regulations. This Order is not intended to be nor shall it be construed to be a permit. This Order does not relieve Respondent of any obligation to obtain and comply with any local, state or federal permits.

99. This Order shall not limit or otherwise preclude EPA from taking additional enforcement action pursuant to Section 3008(h) of RCRA or any other available legal authorities should EPA determine that such actions are warranted and necessary to protect human health or the environment. Such additional enforcement action may include, but is not limited to, any and all actions under RCRA or any other available legal authority EPA may deem necessary.

100. EPA hereby expressly reserves any right it may have to perform any work required to be performed hereunder by Respondent, including, but not limited to, site characterization, feasibility studies, and response/corrective actions as it deems necessary to protect public health or the environment and EPA may exercise any authority it may have under the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. §§ 9601-9675, to undertake removal actions or remedial actions at any time. Notwithstanding Respondent's compliance with the terms of this Order, EPA reserves any right that it may have to seek reimbursement from Respondent for all costs incurred by the United States, and Respondent is not released from liability, if any, for such costs.

101. If EPA determines that activities in compliance or noncompliance with this Order have caused or may cause a release of hazardous waste, hazardous waste constituents or a threat to human health or the environment or that Respondent is not capable of undertaking any studies or corrective measure ordered, EPA may order Respondent to stop further implementation of this

Order for such period of time as EPA determines may be needed to abate any such release or threat and/or to undertake any action which EPA determines is necessary to abate such release or threat. Respondent reserves the right to contest any such EPA required action in accordance with the procedures applicable in governing statutory and regulatory authorities.

XVII. OTHER CLAIMS

102. Nothing in this Order shall constitute or be construed as a release by any party bound by this Order, whether or not such party is a signatory to this Order, of any claim, cause of action or demand, in law or equity, against any other person, firm, partnership, or corporation for any liability it may have arising out of or relating in any way to the generation, storage, treatment, handling, transportation, release, or disposal of any hazardous wastes, hazardous waste constituent, hazardous substances, pollutants, or contaminants found at, taken to, or taken from the Facility.

XVIII. OTHER APPLICABLE LAWS

103. All actions required to be taken by Respondent pursuant to this Order shall be undertaken in accordance with all applicable local, state, and federal laws and regulations. Respondent shall obtain or cause its representatives to obtain all permits and approvals necessary under such laws and regulations.

XIX. MODIFICATION

104. This Order may be amended only by mutual agreement of EPA and Respondent. Such amendments shall be in writing, shall be signed by both parties, and shall be incorporated into this Order.

105. No informal oral advice, guidance, suggestions, or comments by EPA regarding reports, plans, specifications, schedules, or any other documents submitted by Respondent shall be construed as relieving Respondent of its obligation to obtain, or EPA of its obligation to give, formal written approval, if and when required by this Order.

XX. SEVERABILITY

106. If any provision or authority of this Order or the application of this Order to any party or circumstances is held by any judicial or administrative authority to be invalid, the application of such provisions to other parties or circumstances and the remainder of the Order shall remain in full force and effect and shall not be affected thereby.

XXI. INDEMNIFICATION OF THE UNITED STATES

107. Respondent agrees to indemnify and save and hold harmless the United States Government, its agencies, departments, agents and employees from any and all claims or causes of action arising from or on account of any acts or omissions of Respondent or its employees, officers, directors, agents, independent contractors, receivers, trustees and assigns in carrying out activities required by this Order. It is not the purpose of this Order nor the intention of the parties hereto to release any persons or entities not parties to or bound by this Order from any claims or liabilities in connection with the work performed or required hereunder or with environmental conditions at the Facility.

XXII. TERMINATION AND SATISFACTION

108. This Order shall terminate when Respondent demonstrates in writing and certifies to the satisfaction of EPA that all activities required under this Order, including any additional work, and payment of any stipulated penalties demanded by EPA have been performed and EPA has approved the certification. This notice shall not, however, terminate Respondent's obligation to comply with Section XV (Record Preservation) of this Order.

109. The certification shall be signed by a responsible official of Respondent who shall make the following attestation: "I certify that the information contained in or accompanying this certification is true, accurate and complete." For purposes of this Order, a responsible official is a corporate officer of Respondent who is in charge of a principal business function.

110. Following EPA's receipt of such notice and certificate, EPA will inform Respondent in writing of its determination that all work or any portion of the Work required by this Order has been completed.

XXIII. NON-SIGNATORIES TO ORDER

111. Nothing contained in this Order shall be construed as conferring upon or giving rise to any rights to any persons not parties hereto.

XXIV. EFFECTIVE DATE

112. This Order shall be effective upon receipt by Respondent of a fully executed copy of this Order.

113. This Order may be executed in multiple counterparts, each of which shall be deemed an original.

XXV. WAIVER OF HEARING

114. Respondent waives its right to request a public hearing pursuant to Section 3008(b) of RCRA, 42 U.S.C. § 6928(b), relating to this Order.

IT IS SO AGREED AND ORDERED

FOR THE U.S. ENVIRONMENTAL PROTECTION AGENCY

6/16/05
Date

William A. Spratlin
WILLIAM A. SPRATLIN
Director
Air, RCRA & Toxics Division
U.S. Environmental Protection Agency
Region VII
901 North 5th Street
Kansas City, Kansas 66101

5/31/05
Date

David A. Hoefler
DAVID A. HOEFER
Attorney
U.S. Environmental Protection Agency
Region VII
901 North 5th Street
Kansas City, Kansas 66101

The undersigned representative of Respondent certifies that he/she is fully authorized to enter into this Order and to bind Respondent to this Order.

FOR UNIVAR USA INC.

5/26/2005
Date

Signature: James P. Hooper
Name (print): JAMES P. HOOPER
Title: DIRECTOR, ENVIRONMENTAL AFFAIRS
Address: 66 FEECE DR.
BATAVIA, IL. 60510

ATTACHMENT 1

FINAL DECISION AND RESPONSE TO COMMENTS

UNIVAR CORPORATION
4120 BUCKINGHAM PLACE
OMAHA, NEBRASKA
EPA IDENTIFICATION # NED986375327

INTRODUCTION

This Final Decision and Response to Comments (FD-RTC) is being presented by the U.S. Environmental Protection Agency (EPA). The purpose of this FD-RTC is to identify the selected corrective measures for implementation at the Univar Corporation facility located at 4120 Buckingham Place, Omaha, Nebraska (the "Facility", the general location of which is depicted on Figure 1), and address any issues raised during the public comment period on the Statement of Basis presented by EPA. (A Statement of Basis is an EPA document that provides a brief summary of all of the corrective measure alternatives considered for implementation at a given facility, and which highlights the key factors which led to the identification of the proposed corrective measure(s).) The public comment period on the Statement of Basis ran from May 12 through June 26, 2003.

As no comments on the corrective measures proposed in the Statement of Basis were received by EPA, EPA has selected the corrective measures as proposed in the Statement of Basis without any changes. The selected corrective measures are briefly described below.

SELECTED CORRECTIVE MEASURES

The selected corrective measures for the Facility are:

- For contaminated soils – There are two components to this action: (1) the construction and maintenance of an engineered cover over areas of the Facility where soil is contaminated; and (2) the establishment of institutional controls.
- For contaminated groundwater located on-site - Extraction through pumping, treatment, and disposal by discharge into the local sanitary sewer system.
- For contaminated groundwater migrating off-site – Contaminated groundwater has migrated off-site. The groundwater extraction, treatment, and disposal measure described above will not be effective in capturing all of this off-site groundwater. A long-term groundwater monitoring program which will include downgradient monitoring wells will be established to verify that this off-site contaminated groundwater does not reach receptors at levels of concern. Monitoring data will be used to confirm the effectiveness of natural processes in attaining media cleanup standards. In addition to monitoring, a contingency plan will be prepared. This contingency plan will provide a mechanism to invoke containment or treatment measures, if future monitoring results indicate that natural processes are insufficient to achieve media cleanup standards.

The engineered covers will be designed and constructed to create a barrier between potential receptors at the ground surface and the underlying contaminated soil, eliminating the exposure pathway. The approximate lateral extent of the engineered covers are illustrated on Figure 2. Engineered covers will be constructed directly on top of the existing ground surface within each area. The existing concrete slabs will not be demolished. Instead, fill will be placed on the ground surface to establish acceptable drainage and asphalt pavement will be constructed above the fill. The asphalt pavement will consist of three inches of asphalt and approximately nine inches of base rock.

The engineered covers will greatly limit infiltration through the contaminated soil, reducing the potential for future mobilization of contamination into the groundwater. In addition, the location of the impacted soil and the need for EPA notification, appropriate health and safety measures, and proper soil management protocols during future earthwork events in this area will be recorded at the Douglas County Registrar of Deeds. This proprietary control is expected to take the form of a restrictive covenant or easement. As Nebraska has a marketable title statute that requires certain property interests to be re-filed every 23 years to remain valid (*R.R.S. Neb. § 76-290*), a protocol for ensuring that an effective institutional control remains in place for as long as necessary must be developed. A physical barrier and warning signs will be placed around the capped area and will be maintained to help ensure that subsurface work will not be conducted without the knowledge of the property owner.

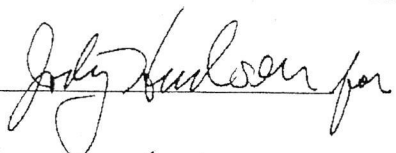
The groundwater-monitoring system will involve the construction of monitoring wells screened in the I Sand Unit downgradient of the Facility. These wells will be located based on the conceptual model of the Facility and accessibility, with specific locations proposed in the Corrective Measures Implementation Workplan. Monitoring data will be collected at a specified frequency and used to confirm the effectiveness of natural processes in attaining media cleanup standards. The duration of monitoring will be based on periodic statistical evaluation of trends in the groundwater data, in accordance with the Corrective Measures Implementation Workplan.

PUBLIC PARTICIPATION ACTIVITIES

EPA has met several times with the South Omaha Neighborhood Association and the Spring Lake Park Association. Results of the RCRA Facility Investigation and Corrective Measures Study have been presented to these associations and they seem satisfied with this proposal. The Statement of Basis for this Facility was made available for public comment from May 12, 2003 to June 26, 2003. No comments on the corrective measures proposed for the Facility were received.

DECLARATIONS

Based on the administrative record compiled for this Facility, I have determined that the selected corrective measures for the Facility are appropriate and will be protective of human health and the environment.



Art Spratlin, Director
Air, RCRA, and Toxics Division

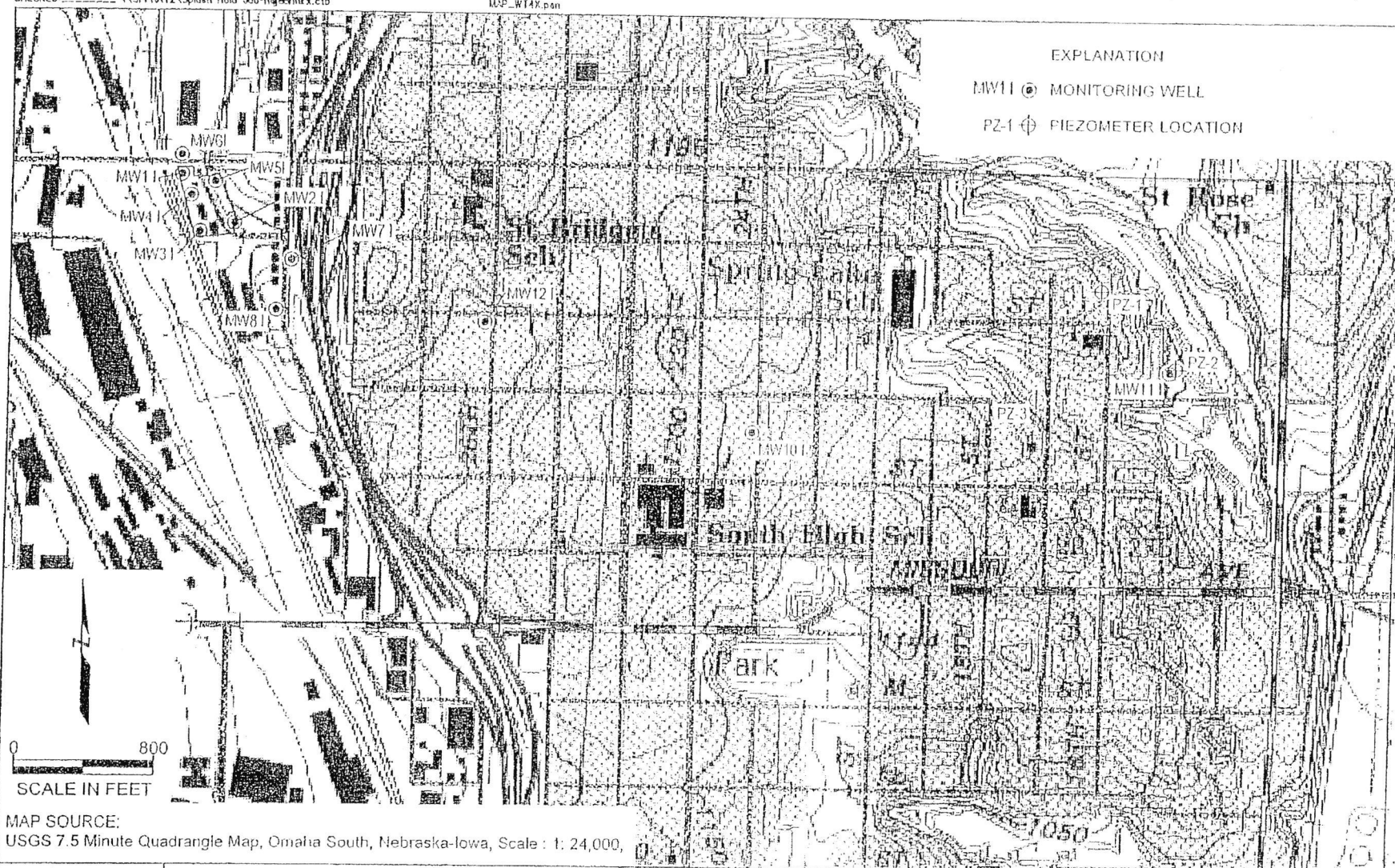
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EXPLANATION

MW11 MONITORING WELL

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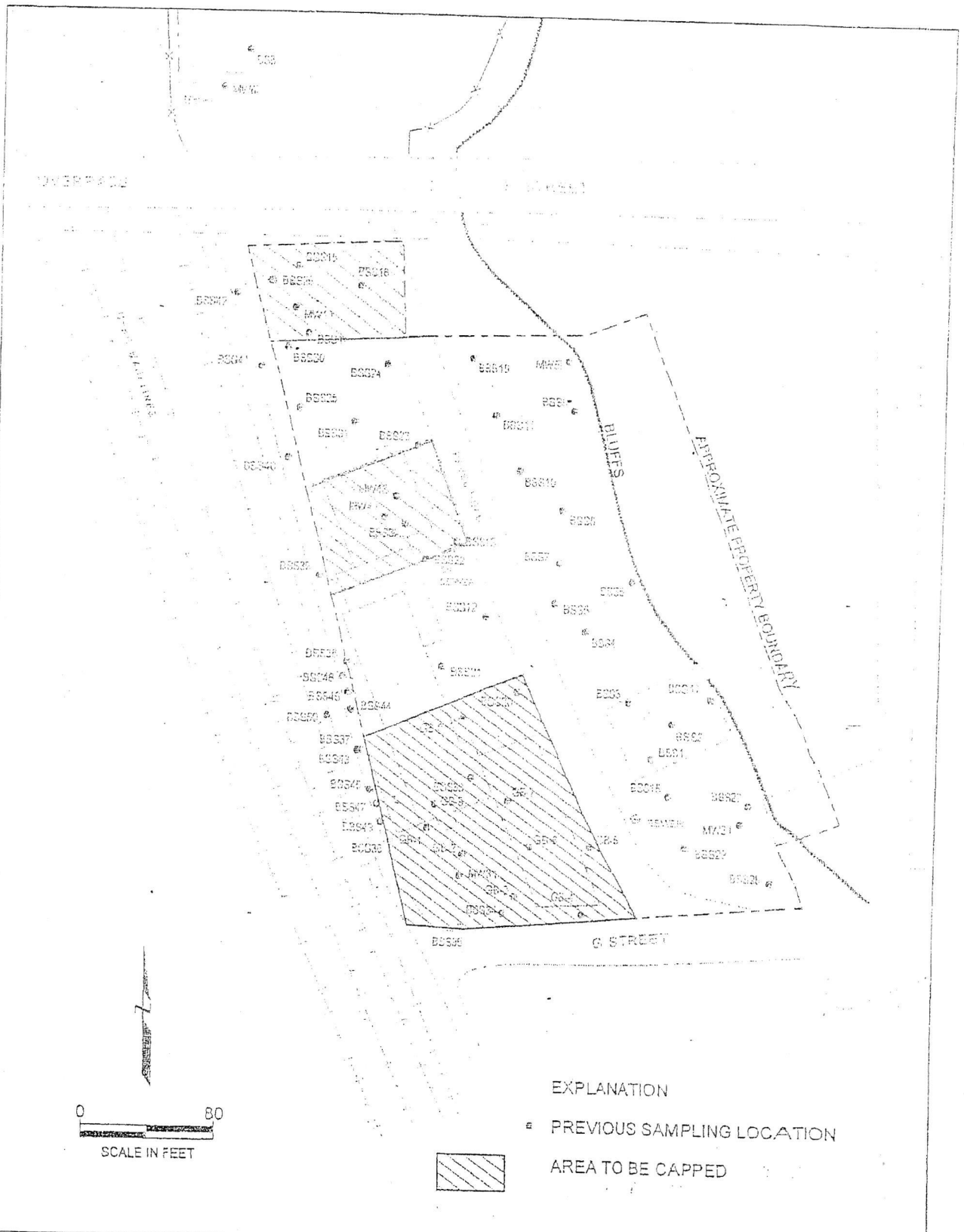
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 Omaha, Nebraska

Project No.
 4132 H
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AREA FOR ENGINEERED CAP

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ATTACHMENT 2

CORRECTIVE MEASURES IMPLEMENTATION SCOPE OF WORK

INTRODUCTION: Based on the outcome of the Corrective Measures Study ("CMS"), Respondent is responsible for the design, construction, implementation, and continued performance monitoring of corrective measures at the Facility. The selected corrective measures must be implemented and maintained until the corrective measures objectives and the conditions of the Order for Termination and Satisfaction have been met.

- a. **Purpose** - The purpose of the Corrective Measures Implementation ("CMI") is to construct, operate, maintain, and monitor the performance of the corrective measures selected by EPA for implementation by Respondent at the Facility.
- b. **Scope** - Submittals required for the CMI include:
 - i. Task 1: CMI Workplan;
 - ii. Task 2: Health and Safety Plan ("HSP");
 - iii. Task 3: Operation and Maintenance ("O&M") Plan, which will include a Long-term Groundwater Monitoring Plan;
 - iv. Task 4: Community Relations Plan ("CRP");
 - v. Task 5: Construction Completion Report ("CCR");
 - vi. Task 6: 5-Year Corrective Measures Performance Evaluation Report;
 - vii. Task 7: Corrective Measures Completion Report ("CMCR"); and
 - viii. Task 8: Progress Reports.

I. TASK 1: CMI WORKPLAN - The CMI Workplan shall contain the following elements:

- a. **Introduction/Purpose** - Describe the purpose of the document and provide a summary description of the project. Elements of this description shall include:
 - i. A summary description of current conditions at the Facility;
 - ii. A summary of the corrective measures objectives;
 - iii. A description of the selected corrective measures;
 - iv. Preliminary design criteria and rationale, including, for the on-site plume, definition of the target capture zone;
 - v. Performance expectations and proposed corrective measures completion criteria, including criteria for verifying attainment of the target capture zone;
 - vi. Preliminary design criteria and rationale;
 - vii. General operation and maintenance requirements;

- viii. Design and implementation precautions which will include, but are not limited to:
 - A. Special technical problems;
 - B. Additional engineering data required;
 - C. Permits and regulatory requirements; and
 - D. Access, easements, right-of-way.
- b. **Project Management Plan** - Describe the construction management approach including levels of personnel authority and responsibility (including an organization chart), lines of communication and the qualifications of key personnel who will direct the construction of the corrective measures and provide construction quality assurance/quality control (including contractor personnel).
- c. **Remedial Quality Assurance Project Plan/Sampling and Analysis Plan** - In order to properly describe any sampling and monitoring activities necessary for effective operation and maintenance of the corrective measures, and to ensure that all information, data and resulting decisions are technically sound, statistically valid, and properly documented, the CMI Workplan shall include a Quality Assurance Project Plan ("QAPP")/Sampling and Analysis Plan ("SAP"). This QAPP/SAP shall document all remedial goal verification (how Respondent will demonstrate that the cleanup standards have been attained), monitoring procedures, sampling, field measurements and sample analyses to be performed during implementation of the corrective measures.
- d. **Project Schedule** - The project schedule must include timing for key elements of the bidding process, timing for initiation and completion of all major corrective measure construction tasks, and specify when the other deliverables required by this Order are to be submitted to EPA.
- e. **Corrective Measures Objectives** - Discuss the objectives of the corrective measures (engineered and institutional controls) to be implemented at the Facility, including applicable media cleanup standards.
- f. **Construction Quality Assurance/Quality Control Plan** - The purpose of construction quality assurance is to ensure, with a reasonable degree of certainty, that the completed corrective measures will meet or exceed all design criteria, plans, and specifications. The CMI Workplan must include a Construction Quality Assurance Plan to be implemented by Respondent.
- g. **Waste Management Procedures** - Describe the wastes generated by construction of the corrective measures and how such wastes will be managed.

- h. **Contingency Procedures** - General contingency procedures to be described in the text of the CMI Workplan include the following:
- i. Changes to the design and/or specifications may be needed during construction to address unforeseen problems encountered in the field. Procedures to address such circumstances, including notification of EPA, must be included;
 - ii. The CMI Workplan must specify that, in the event of a construction emergency (e.g., fire, earthwork failure, etc.), Respondent shall orally notify EPA within 24 hours of the event and will notify EPA in writing within 72 hours of the event. The written notification must, at a minimum, specify what happened, what response action is being taken and/or is planned, and any potential impacts on human health and/or the environment;
 - iii. Procedures to be implemented if unforeseen events prevent corrective measure construction; and
 - iv. A list of all emergency contacts (including phone numbers).

II. TASK 2: HEALTH AND SAFETY PLAN

Respondent shall submit to EPA a Health and Safety Plan ("HSP") for all field activities, although it does not require approval by EPA. The HSP shall be developed as a stand alone document but may be submitted with the CMI Workplan. The HSP must, at a minimum, comply with all applicable Occupational Safety and Health Act ("OSHA") requirements.

III. TASK 3: OPERATION AND MAINTENANCE PLAN

Respondent shall prepare an O&M Plan that outlines procedures for performing operations, long-term maintenance and monitoring of the corrective measures, including long-term groundwater monitoring. The O&M Plan shall, at a minimum, include the following:

- a. **Introduction/Purpose** - Describe the purpose of the document and provide a summary description of the project.
- b. **Project Management** - Describe the management approach including levels of personnel authority and responsibility (including an organizational chart), lines of communication and the qualifications of key personnel who will operate and maintain the corrective measures (including contractor personnel).
- c. **System Description** - Describe the corrective measures and identify significant equipment, as applicable. Provide schematics or process diagrams to illustrate system design and operation.

- d. **Personnel Training** - Describe the training process for O&M personnel, as applicable. Respondent shall prepare, and include in the technical specifications governing treatment systems, the contractor requirements for providing: appropriate service visits by experienced personnel to supervise the installation, adjustment, start-up and operation of the corrective measures, and training covering appropriate operational procedures once the start-up has been successfully accomplished.
- e. **Start-Up Procedures** - Describe all applicable corrective measure start-up procedures including any operational testing.
- f. **Operation and Maintenance Procedures** - Describe normal operation and maintenance procedures including:
 - i. A description of tasks for operation, to include long-term groundwater monitoring;
 - ii. A description of tasks for maintenance;
 - iii. A list of monitoring wells to be sampled as part of the Facility's monitoring network;
 - iv. A list of groundwater constituents which will be targeted for sampling and analysis;
 - v. A description of prescribed treatment or operation conditions; and
 - vi. A schedule showing the frequency of each O&M task.
- g. **Data Management and Documentation Requirements** - The O&M Plan shall specify that Respondent will collect and maintain the following information:
 - i. Progress Report Information;
 - ii. Monitoring and laboratory data;
 - iii. Records of operating costs; and
 - iv. Personnel, maintenance, and inspection records.

This data and information should be used to prepare Progress Reports.

- h. **O&M Quality Assurance Project Plan/Sampling and Analysis Plan** - In order to properly describe any sampling and monitoring activities necessary for effective operation and maintenance of the corrective measures, and to ensure that all information, data and resulting decisions are technically sound, statistically valid, and properly documented, Respondent shall prepare a Quality Assurance Project Plan ("QAPP")/Sampling and Analysis Plan ("SAP"). This shall document all monitoring procedures, sampling, field measurements, and sample analyses to be performed during O&M activities. Respondent shall use EPA-approved procedures described in the *EPA Requirements for Quality Assurance Project Plans for Environmental Data Operations* (EPA QA/R-5).

- i. **Replacement Schedule for Equipment and Installed Components**
- j. **Waste and/or Contaminated Media Management Practices** - Describe any wastes and/or contaminated media which may be generated by operation of the corrective measures and how they will be managed.
- k. **Corrective Measure Completion Criteria** - Describe the process and criteria for determining when the corrective measures have achieved corrective action objectives. Also describe the process and criteria for determining when maintenance and monitoring may cease.
- l. **Contingency Procedures** - Describe, as applicable, the following types of contingency procedures necessary to ensure system operation in a manner protective of human health and the environment:
 - i. Procedures to address system breakdowns and operational problems including a list of redundant and emergency back-up equipment and procedures;
 - ii. Alternate procedures to be implemented if the corrective measures suffer complete failure. The alternate procedures must be able to prevent release or threatened releases of hazardous wastes or constituents which may endanger human health or the environment or exceed media cleanup standards;
 - iii. The O&M Plan shall specify that, in the event of a major breakdown and/or the complete failure of the corrective measures, Respondent shall orally notify EPA within 24 hours of the event and will notify EPA in writing within 72 hours of the event. Written notification must, at a minimum, specify what happened, what response action is being taken and/or is planned, and any potential impacts on human health and/or the environment; and
 - iv. Procedures to be implemented in the event that the corrective measures are experiencing major operational problems, are not performing to design specifications, and/or will not achieve the cleanup goals in the expected time frame.

If contingencies require modification of the corrective measures in a substantive fashion which also require physical alteration of the monitoring or remediation equipment, a Construction Workplan shall be submitted by Respondent within 30 days of receipt of a written request for the submittal from EPA. The Construction Workplan shall provide all information necessary to describe the proposed modification to the corrective measures and provide justification for the necessity of the proposed activities to the overall corrective measure effectiveness.

IV. TASK 4: COMMUNITY RELATIONS PLAN

A Community Relations Plan ("CRP") shall be prepared by Respondent and submitted to EPA for review and approval prior to use. Public Involvement activities that may be required of Respondent include the following:

1. Conducting an open house or informal meeting (i.e., availability session) in a public location where people (including the media) can talk to representatives of EPA, the State, and Respondent on a one-to-one basis;
2. Preparing fact sheets summarizing current or proposed corrective action activities (all fact sheets should be reviewed by EPA prior to public distribution);
3. Communicating effectively with people who have vested interest in the corrective action activities; and
4. Maintaining an easily accessible repository (such as a public library) of information on the corrective measure being implemented at the Facility, including the order, approved work plans, and/or other reports.

A schedule for community relations activities shall be included in the CRP.

V. TASK 5: CONSTRUCTION COMPLETION REPORT

The purpose of the CCR is to document the construction and implementation of the corrective measures at the Facility. The CCR shall include the following:

1. a description of the purpose of the CCR;
2. a synopsis of the corrective measures, design criteria, and certification that the corrective measures were constructed in accordance with the final plans and specifications;
3. an explanation and description of any modifications to the final CMI Workplan and specifications and why such modifications were necessary;
4. the results of any operational testing and/or monitoring, indicating how initial operation of the corrective measures compares to the design criteria;
5. a summary of significant activities that occurred during construction, including a discussion of problems encountered and how they were addressed;
6. a summary of all inspection findings (including copies of key inspection documents in appendices); and
7. as-built drawings and photographs depicting the constructed corrective measures.

VI. TASK 6: 5-YEAR CORRECTIVE MEASURES PERFORMANCE EVALUATION REPORT

Respondent shall conduct a Corrective Measure Performance Evaluation and submit a Corrective Measure Performance Evaluation Report documenting the effectiveness of the on-site pump & treat system in maintaining source area containment and off-site Monitored Natural Attenuation ("MNA") in preventing downgradient plume migration. EPA will review the Corrective Measure Performance Evaluation Report upon its submittal and evaluate the Report for compliance with the SOW. The Corrective Measure Performance Evaluation Report shall, at a minimum, include the following elements:

1. A description of its purpose;
2. A synopsis of the objectives of both the pump and treat system, including a definition of the target capture zone, and off-site MNA;
3. Up-to-date groundwater contaminant plume maps showing isoconcentration lines of the major contaminants;
4. A horizontal capture zone analysis, prepared in accordance with *Capture Zone How-To Guide for Groundwater Pump and Treat Systems*, which is to include most, if not all, of the following methods:
 - a. Flow budget calculations to estimate the pumping rate required to capture the groundwater flux through the extent of the on-site plume;
 - b. Assessment of capture based upon analytical solutions;
 - c. Assessment of capture based upon an interpretation of water level maps;
 - d. Assessment of capture based upon concentration trends at monitoring wells located downgradient of the Target Capture Zone;
 - e. Assessment of capture using particle tracking results from a numerical flow model.
5. Using the lines of evidence itemized in subparagraph 4 above for defining the actual capture zone and using figures to visually compare targeted capture zone to actual capture, determine whether the pump and treat system is achieving its objectives (i.e. actual capture is achieving what was targeted and reasonable progress is being made toward remedial goals);

6. Discuss uncertainties in the capture zone analysis;
7. Determine whether extraction rates and/or extraction well locations need to be modified based upon the capture zone analysis to achieve remedial objectives; and
8. An evaluation of the performance of MNA in off-site areas at limiting downgradient plume migration through review of historic contaminant concentration and MNA index parameter trends.

VII. TASK 7: CORRECTIVE MEASURES COMPLETION REPORT

Respondent shall prepare a CMCR when Respondent obtains information demonstrating that the completion criteria for all of the corrective measures have been achieved. The purpose of the CMCR is to fully document how the corrective action objectives and corrective measure completion criteria have been satisfied, and to justify why the corrective measure and/or monitoring may cease. The CMCR shall, at a minimum, include the following elements:

1. A synopsis of the corrective measures implemented;
2. The Corrective Measures Completion Criteria: Describe the process and criteria for determining when the corrective measures and maintenance and monitoring may cease. Corrective measure completion criteria were given in the EPA-approved O&M Plan;
3. A demonstration that the completion criteria have been met. Include results of testing and/or monitoring, indicating how operation of the corrective measures compare to the completion criteria;
4. A summary of work accomplishments (e.g., performance levels achieved, total hours of treatment operation, total treated and/or excavated volumes, nature and volume of wastes generated, etc.);
5. A summary of significant activities that occurred during operations. Include a discussion of problems encountered and how they were addressed;
6. A summary of inspection findings (including copies of key inspection documents in appendices);
7. A summary of total operation and maintenance costs; and

8. A discussion of the potential impacts that cessation of maintenance and monitoring could have on the future effectiveness of the corrective measure and/or potential receptors.

VIII. TASK 8: PROGRESS REPORTS

Respondent shall provide quarterly progress reports, as required by the Order, on the design, construction, implementation, and operation of the corrective measures at the Facility and the groundwater monitoring. The progress reports shall be due quarterly on or before the 15th day of the month following the end of the reporting period, with the first reporting period beginning on the first day of the third month immediately following the effective date of the Order. The progress reports shall contain the following information to allow the EPA to monitor the progress of the cleanup and the groundwater monitoring.

1. A description and estimate of the percentage of the corrective measure construction completed;
2. A description of significant activities (e.g., sampling events, inspections, etc.) and work completed/work accomplishments (e.g., performance levels achieved, hours of treatment operation, treated and/or excavated volumes, concentration of contaminants in treated and/or excavated volumes, nature and volume of wastes generated, etc.) during the reporting period;
3. Summaries of all changes made in the corrective measure construction during the reporting period;
4. A summary of system effectiveness. Provide a comparison of system operation to predicted performance levels (applicable only during operation of the corrective measure);
5. Summaries of all contacts with representatives of the local community, public interest groups, Federal or State government during the reporting period;
6. Summaries of all findings (including any inspection results);
7. Summaries of all problems or potential problems encountered during the reporting period;
8. Actions being taken and/or planned to rectify problems;
9. Changes in relevant personnel during the reporting period;
10. Projected work for the next reporting period; and

11. The results of any sampling tests and/or other data generated during the reporting period, as well as copies of the raw data, field logs, etc. which were used to compile those results.

Following completion of the construction of the corrective measures, upon Respondent's request and at EPA's discretion, EPA may reduce the frequency of progress reporting.